

*N.J. Meadows (Cunningham)
Hutch*

'Tanker Alley'

Arthur Kill, in the 'Forgotten Meadows,' Carries More Tons Annually Than Panama Canal

By **JOHN T. CUNNINGHAM**

FOUR HUNDRED feet below our soaring plastic bubble lay the "forgotten" meadows, sprawled on both sides of "Tanker Alley," and Stan Szycher, pilot of the Port of New York Authority helicopter in which we sat, seemed also to be seeing for the first time these marshes within tidal reach of the murky green Arthur Kill.

Stan's particular interest made me wonder; this was by no means his

Out of sight, out of mind. That's the portion of the Jersey Meadows between Elizabeth and Perth Amboy, considered in this bird's eye view of that seldom-noted meadowland region. The seventh of a series.

first trip across this region. Then, as he pointed toward the southwest, he spoke to me over the intercom:

"I live right over there, you know—Woodbridge. Never really thought much about this as a meadowland, though."

Few do. The extent of this section of foxtail-fringed land between Elizabeth and Perth Amboy is unknown to most. Industrialization is widespread, yet unconquered meadows still frame both sides of the Elizabeth and Rahway rivers, edge the tank farms and industries of Linden, Woodbridge and Carteret, and spread away from the pillars of Goethal's Bridge at Bayway and Outerbridge Crossing at Perth Amboy. Most impressively, the marsh-

lands cover wide patches on Staten Island to the east of Arthur Kill.

NEVERTHELESS, this is "forgotten" meadowland, out of sight, out of mind. True, the New York & Long Branch Railroad has crossed the marshes out there for 80 years, but passenger traffic on the NY&LB isn't huge. Millions of people have roared across the flatland at 60 miles per hour on the New Jersey Turnpike since 1951, but turnpike riders look more for radar speed traps than for challenging open lands.

Even the explorer who sets out deliberately to know and to understand these thousands of acres of overlooked meadows finds the knowing difficult. Rare is the road which leads across the area; those that do generally dead-end at a guarded gate outside a petroleum installation or an industrial plant.

And, unlike the sister meadows north of Newark where sharply rising hills to the east and to the west afford splendid viewing points, this lower meadowland is surrounded by level terrain. There is no Snake Hill to climb for unobstructed viewing, no one place where a person can look off and say, "Ah, there is the meadowland."

That's what makes the vantage point of a helicopter so rewarding. Here, for the first time, I understood both the magnitude of the entire re-

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Tugboat helps tanker through swing bridge on Arthur Kill, called "Tanker Alley" because of amount of petroleum moved through channel annually. Total shipping volume for '57 was 97 million tons.



Outerbridge Crossing, between Perth Amboy and Tottenville, S.I., was named for Eugenius H. Outerbridge, first chairman of New York Port Authority. Note the "graveyard" of wooden ships on the Staten Island shore of the Arthur Kill.

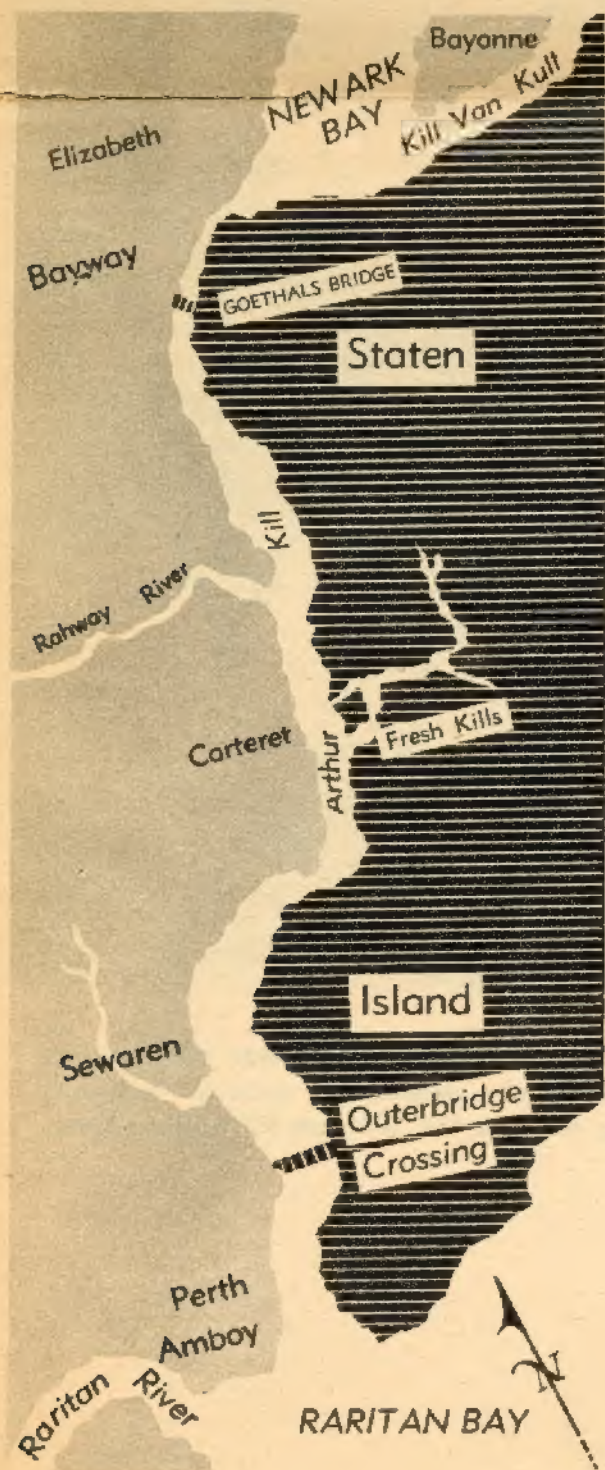
TANKER ALLEY

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gion and also the extent to which this Elizabeth-Perth Amboy Meadowland has been conquered. If chroniclers of the past and travelers of the present ignore this area, 20th century industrialists—especially those who live on oil—have warmly sought it out.

ON the Kill beneath our slowly cruising helicopter a stout tug guided a massive petroleum tanker through the open swing bridge of the Baltimore & Ohio Railroad crossing south of Elizabeth. The great ship heeded its bossy little guide; this tight squeeze left no room for debating.

Two other tankers tied up at the nearby Esso dock in Linden fed oil into pipes linked with tanks on the upland. My eye swept the landscape, trying to count the number of squat, round petroleum storage tanks—but



Another section of "Tanker Alley," with Rahway River at left. In foreground is American Oil Co.; in center, American Cyanamid and Cities Service plants.

this is a job to discourage rapid computation. Everywhere on both sides of the Kill the tanks are jumbled on the terrain like so many aluminum or gaily painted pieces on a straw-colored checkerboard.

"I see what they mean by 'Tanker Alley'!" Stan's voice said into my ear-phones.

Oil is not the entire story beside the Arthur Kill, however. We could see the Du Pont and General Aniline chemical plants at Grasselli, and next door the trim Linden Public Service electrical generating station reared out of the marsh grass, just as its counterpart rises down channel at Sewaren.

INDUSTRY is common by the Kill—on the New Jersey side, at any rate—but the intriguing thing is that each new development seems to make what remains of marshland more noticeable in contrast. There is plenty of frontier left here, although this is the most heavily developed portion of all the Jersey Meadows.

Our clear helicopter viewpoint afforded a new slant on the omnipresent foxtails which hem in wayfarers on the ground and wave on outside industrial gates. From 400 feet, looking straight down, the foxtails look

like the stiff hair on a tow-headed boy whose yellow hair has just been cut flattop style.

"Does anything else but those reeds grow down there?" Stan asked.

This was one of those rare times when a man who walks has it over those who fly. I could tell him of rewarding hours spent on the Linden meadows with Pat Cerillo, a foreman for the Union County Mosquito Commission who has worked this marshland for 32 years. Pat knows the tide-scoured acres more intimately than any other man; he knows that more than foxtails greet the eye of the curious searcher.

THERE is salt hay, for one thing, because these marshes have never been diked like much of the northern part of the meadowland (except for railroad, roadway or industrial embankments which serve as dikes although not planned that way). Rising and falling tides until quite recently have kept soil conditions properly balanced for salt hay in several areas.

Pat one day had showed me the cutting machines and hay ricks of George Nelson of Rahway, who still cuts some hay on the meadows. Mr. Nelson's machines, canvas covered against winter snows the day we chanced by, rest on a little open spit of land surrounded by storage tanks of Cities Service, Gulf and Buckeye

companies. This is no bucolic scene by Currier & Ives.

Mr. Cerillo knew this ground when salt hay grew profusely on all sides. His nostalgia includes memories of when the meadow "smelled so nice when you walked through the hay."

These days the New Jersey Turnpike cuts up the Nelson "farm" where the petroleum tanks leave off. Across the nearby Rahway River the transmitting towers of radio station WOR rise from the Carteret marshes. Modern living is nigh; if the world really craves salt hay it must soon look elsewhere than the Linden meadows for its supply.

Despite such encroachments, as we viewed this marshland from aloft, I was startled to see how much land remains to be reclaimed on both sides of the meandering Rahway River. Somehow, standing on the ground amid the petroleum tanks, I had not appreciated the extent of this particular meadowland acreage. It's extensive, even if its salt hay is doomed.

NOR had I ever really appreciated the Arthur Kill by viewing it alone from its muddy, polluted banks. Now, as I saw the Kill's waterborne traffic—tankers, barges, tugs—as an itinerant sea gull views it, some vital statistics and facts I had learned on the ground acquired real perspective.

The Arthur Kill might not seem to have the basic characteristics which make for greatness. It's a mere dozen or so miles long, seldom more than 600 to 1,000 feet wide, but its deep channel, sheltered from ocean violence by Staten Island, is—and long has been—an ideal shipping lane.

Early Dutchmen recognized this inland waterway aspect more than 300 years ago. They called it "Achter Kol," meaning the "After or Back Channel." The "Arthur" and the "Kill" of today represent the inability or the unwillingness of English colonists to perpetuate earlier place names. Some later arrivals even dropped the Dutch name entirely and called the Kill "Staten Island Sound," a name bestowed about 125 years ago when the curving waterway was tidy and clean.

Those days the murmuring paddle-wheels of steamboats churned the waters of the sound on trips between New Brunswick, the Amboys and New York City. Men and boys fished in the channel and in contributory creeks winding through the sweet salt hay. People of all ages swam in the tide-flushed sound, and at several places—particularly Sewaren between about 1875 and 1900—resorts won fame.

INNOCENT, uncomplicated days have been gone on the Kill for 40 or 50 years, or ever since Standard Oil's Bayway plant, begun in 1908, outgrew its "kerosene factory" status and became a full-fledged maker of gasoline and "higher" oil products. The increasing shipment of crude oil in tanker bottoms after the 1920s speeded up the transition. Oil-minded neighbors joined Standard Oil; the fish, the swimming and the resorts retreated into memory.

Today the Arthur Kill is one of the world's most vital waterways. Petroleum, so bulgy and so heavy, is the reason. The volume moving through the channel totaled 97 million tons in 1957, about two-thirds of all the tonnage moving through the entire Port of New York (of which the Arthur Kill is a part).

Should that not seem like much, reflect that this total is considerably more than twice the tonnage handled annually in the Panama Canal and

Old Swimming Hole

Whatever else can be said for the Arthur Kill and its tributaries, it takes a dedicated soul to describe the waters as beautiful. Once, at least as recently as 1951, boys swam in the Kill—to the apparent shock of an Elizabeth councilman who urged enforcement of the "no swimming" rule because "children swim in the polluted waters, ignorant of their foolishness."

Earlier, in 1937, the nostalgic witnesses at pollution hearings in Elizabeth bemoaned the sad state of the waters. One said he had swum in the Arthur Kill in 1912—and he definitely remembered the water as clean.

It's a matter of relativity. Probably better testimony is that of Rev. Joseph Dally, a Woodbridge minister, who in 1873 wrote that the Kill was unsullied and unbesmirched. Salt hay flourished in the meadows, sailboats tacked on the clean water. As for the tributaries, well, Mr. Dally looked at Smith's Creek at Sewaren and called it "a crumpled blue ribbon thrown at random on the green meadow."

But Mr. Dally was realistic as well as poetic. He noted that the railroad was abuilding on the meadows, and steamboats whistled on the Kill. Between his lines could be read a warning—enjoy ye crumpled blue ribbons while ye may.

nearly twice as much as all tonnage handled in the entire port of Baltimore in the same year.

Quite correctly, this is "Tanker Alley." Heavily laden tankers (up to 35,000 tons) use the channel, but oil handlers along the Kill continuously urge quick action to deepen the channel to a minimum of 35 feet for its entire length—and eventually to 40 feet to handle the bigger (45,000-ton) tankers now commonplace.

OFTEN, when out on this lower meadow on a day of high humidity, I have had a sense of being immersed in an oil-tinged dew. From the helicopter, however, closed off from the petroleum perfumes, the sights proved more dramatically than smells that what gushes elsewhere meets its refinement here.

Stan lifted our craft gracefully over
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An Acid Test

The meadowland on Tremley Point had an acid test, so to speak, in the 1880's—and, if the meadow gained no friends, it did win respect.

Marsh & Harwood Co. of Cleveland early in the 1880's decided to build a sulphuric acid plant on Tremley Point (named for Huguenot Jean Traubles or John Trembley, who arrived before 1689). The plant went up, relatively stable, on 25-foot pilings driven into the muck.

Everything else worked contrarily: Even fresh water had to be brought in—and the water barges leaked so much that often 25 per cent more water was taken out of the tanks than the barge could possibly hold.

Marsh & Harwood failed, sold out in 1889 to Caesar Grasselli's Chemical Co. of Cleveland. Jersey Central agreed to build a line to Grasselli's boggy-down acid plant, but the first train out sank in Tremley Point until the cars were level with the ground. Later, two locomotives jumped the tracks as the roadbed collapsed into the marsh.

The acid makers beat the meadows eventually. Tremley Point is now called Grasselli for the man who made the first firm stand—and the old acid area is divided (and greatly expanded) between Du Pont and General Aniline Co.



(Courtesy, Rutgers University Library)

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Outerbridge Crossing at the south end of the Arthur Kill, hovered over the bridge to prove to my satisfaction that the footings on the New Jersey side are set in meadowland, then maneuvered the helicopter eastward on the Kill to follow the Staten Island side north.

Evidences of changing days confront the airborne viewer. At the northern end of the Arthur Kill I had noticed thickets of blackened piles, left over from days when Singer Sewing Machine Co. maintained Kill-side docks and when the Lackawanna Railroad brought coal to tidewater at Elizabethport. In Perth Amboy near Outerbridge Crossing the fat width of an abandoned railroad yard lay cindery and trackless on the meadowland.

And, just north of Outerbridge Crossing, Stan turned the helicopter almost on its side to show me the "graveyard," where wooden ships and barges of another era are rotting in the Kill.

WE could see up the waterway for miles. Clearly the New Jersey side of the Arthur Kill is far more intensely developed than the Staten Island side. Except for a few petroleum tank farms and a couple of units of a big new Consolidated Edison electrical generating station under construction opposite the Rahway River, this eastern side is largely unconquered.

"You've looked into this," Stan's voice crackled over the intercom. "Why isn't this land being used over here?"

I didn't know. Later I passed the question on to a recognized expert, a

man who has been acquiring meadowland in Linden and Elizabeth for 50 years.

"Simple," he replied. "You know, of course, you were looking at the tail-end of New York City down there. All of Staten Island is just another borough of the city. Whatever happens in Manhattan affects New York City marshes along the Kill. Industrialists save tax money by building on the New Jersey side—and don't forget transportation is better."

He told me that no land, except a rare acre here or there, is available on the New Jersey side of the Kill below Elizabeth. "If you want to put your money in foxtails, you'll have to grab some of that New York City marsh," he said. There is plenty there, too.

POSSIBLY this division of land between New York and New Jersey is one of the basic reasons why the lower meadowland continues to be "forgotten." The Arthur Kill knows no man-made boundaries; to a waterway this meadowland on either side is all part of a natural whole.

Geologically, and naturally as well, Staten Island belongs to the peninsula between the Hudson and Delaware rivers. Hence, when the last glacier of 40,000 to 70,000 years ago began to wane, the terminal moraine dam extended from New Jersey across to Staten Island, heedless of political boundaries to come. A magnificent lake (Lake Hackensack) built up behind the dam from Perth Amboy to north of Hackensack. When the lake eventually ebbed through the moraine dam the marshes remained behind, split by a kill (or sound).

It's too late to cry over split mead-

Many years ago, paddle-wheeled steamboats, like this one at Perth Amboy, plied between New Brunswick, the Amboys and New York.

ows, but Staten Island belongs to New Jersey in every way except politically and legally. It's too late because as early as 1680 the island was given to New York (although it took borderline conferences in 1834 and 1888 to make the gift binding).

How could the 57 square miles of island possibly get away, when a glance at a map shows how nature tucked it neatly between Bayonne and Perth Amboy, snuggled it only a thousand feet from the New Jersey mainland?

MOST recognize the loss as something as prosaic as royal decree, coupled with enforcement by colonial governors. History indicates as much, with the matter settled (to New York's satisfaction) as early as 1680.

More romantically, there is a much-quoted interlude involving a decree by Gov. Nicholls in 1680 that any island which could be circumnavigated in 24 hours would belong to New York. The governor commissioned one Capt. John (or Christopher, one source says) Billop to make the try.

Capt. Billop, the story goes, thought long before he set sail. Shortly before weighing anchor he piled empty barrels on the deck of his vessel, the Bentley, in the hope that the wind would push against both barrels and sails to speed the way. Around the pie-shaped wedge of island the captain sailed, through light of day and dark of night, and his barrel-aided vessel came home in a trifle more than 23 hours. Staten Island belonged to New York.

A wonderful tale. It's really too bad most historians scotch it as mere folklore. Still, there very definitely was a Capt. Billop, so who knows?

Enough of that. From the air, this "forgotten" meadowland is all one, and it's clear that it is a region where the tides overflow indiscriminately. Ocean currents move strongly in from both ends of the channel, meeting at a point somewhere off the Esso docks at Linden.

EVERYWHERE on the banks of the Kill and sometimes deep inland we could see planks and long piling, tossed up by the swirling waters as so many matchsticks. The tides, even under normal circumstances, are rapid and full.

Occasionally, maybe three or four times a year, the tides are abnormally high. At such times the Kill floods across the undiked marshlands, lapping against buildings and filling in areas to remind mortal man that the tides haven't completely capitulated. On such days many people park their cars upland and walk to their places of work in the meadows.

Clearly, construction in such tidal wash calls for underground piling, but nothing as comprehensive as some of the piling operations in the Newark and Hackensack meadows. Generally, rock bottom here isn't much more than 25 to 30 feet down. This, after all, is the rising "shoreline" of long-gone Lake Hackensack.

Tides and piling and who owned Staten Island and similar assorted matters concerned us not at all in our helicopter, now off the Kill and fluttering down to a landing at Newark Airport. We touched lightly to earth, the "forgotten" meadows behind us—out of sight but no longer out of mind. Stan Szycher and I had wrapped them up, for ourselves at least.